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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,912	08/25/2003	Helmut Thoma	Westphal.7276	2331

7590 04/19/2006

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EXAMINER

BOES, TERENCE

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/647,912	Applicant(s) THOMA, HELMUT	
	Examiner Terence Boes	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2-13, 15-17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 11-14, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/20/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of species 1, claims 1,11-14,18-19, drawn to Figures 1-3 in the reply filed on 3/22/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The information disclosure statement filed 8/25/03 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because:

- Foreign reference 846 192 does not contain an English abstract.
- Foreign reference 3026685 does not contain an English abstract.

It has been placed in the application file. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

3. The disclosure is objected to because of the following informalities:

- Regarding Page 3/Lines 4-5 and Page 4/Line 17, how can a plastic gear have the same modulus as a metal gear? To what modulus are you referring (i.e. elasticity, Young's)?

Appropriate correction is required.

Drawings

4. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application (see draftsman review).

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shaft must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 11-14, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 11, how can a first gear be in engagement with a cooperating gear while a second gear is not in engagement with the cooperating gear if both gears sit "loosely" on a shaft? If both gears sit loosely on a shaft or in other words are free to rotate, then upon loading of the system both first and second gears would engage the cooperating gear. In this situation it would seem essential to have first and second gears somehow connected to the shaft however this is not disclosed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "loosely" in claim 1 is a relative term which renders the claim indefinite. The term "loosely" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification discloses that first and second gears are free to move relative to each other, however, the claim as written states that first and second gears sit loosely "on the shaft". Are the gears free to rotate relative to the shaft or are the gears simply free to rotate relative to each other.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "...the first and second gears rotate independently" is indefinite. It is unclear whether the first and second gears rotate independently of each other and/or rotate independently of the shaft.

9. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "primarily" in claim 19 is a relative term which renders the claim indefinite. The term "primarily" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How much material would be necessary for the part to be "primarily" composed of plastic or metal?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 11-14, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinichi JP 59117951.

Shinichi discloses:

- A first gear (12) having a plurality of first gear teeth located along the radial periphery of said first gear; and a second gear (13) having a plurality of second gear teeth located along the radial periphery of said second gear; wherein said first and second gears are operably positioned coaxially (see figures) to allow independent rotation of said first and second gears in the same direction with respect to each other (see abstract), wherein said first gear is constructed from a first material and said second gear is constructed from a second material and said first gear has a greater elasticity than said second gear (see abstract), such that in the absence of high loads said second gear is disengaged from the cooperating gear (see abstract).
- Wherein said first gear teeth and said second gear teeth are helically arranged adjacent to one another (see figures).
- Wherein said first gear teeth and said second gear teeth are helically arranged to offset another (see figures).

- Wherein said first material comprises plastic and said second material is metallic (P1-2/C1-4).
- such that in the absence of high torque said second gear is not engaged with the cooperating gear and during high torque said first gear yields and said second gear engages the cooperating gear. (see abstract).
- Wherein said first gear is primarily plastic and said second gear is primarily metallic (P1-2/C1-4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,11-13, is rejected under 35 U.S.C. 103(a) as being unpatentable over Bethune (USP 1,803,296) in view of Veillette et al (USP 3,359,819).

Bethune USP 1,803,296 discloses all of the claimed subject matter:

- A first gear (C) made of a first material and a second gear (D) made of a second material wherein the first and second gears are adjacent on a common shaft (A) and the elasticity of the first gear is chosen to be greater than that of the second gear while the strength of the second gear is chosen to be greater than that of the first gear (P1/C1/L22-28).

Bethune does not disclose:

- the first gear and the second gear sitting loosely on the shaft such that the first and second gears rotate independently.

Veillette et al. USP 3,359,819 teach a first gear (14) and a second gear (16) sit loosely on the shaft such that the first and second gears rotate independently (C1/L53) for the purpose of absorbing variations in input torque to provide a smoothed torque on the output shaft (C1/L56-58).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Bethune with first and second gears sitting loosely on the shaft such that the first and second gears rotate independently, as taught by Veillette et al., for the purpose of absorbing variations in input torque to provide a smoothed torque on the output shaft.

Conclusion

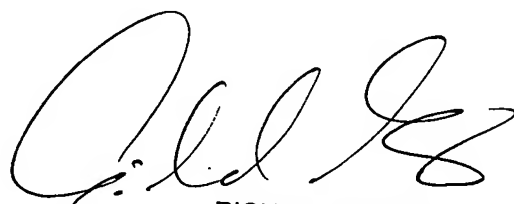
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TB
3/29/06



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